BARNTALK®
Dealer Support Guide

February 2024

BARNTOOLS™

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MARKETING AND
SALES ENABLEMENT

DEALER TOOLKIT

**BarnTalk
Asset Library**

Sales Enablement Collateral

🌾 **BARN**TOOLS™

Click the image above to access our <u>complete library</u> of BarnTalk marketing and sales enablement assets. Make a copy of each file to customize them for your specific needs.

BARNTOOLS DIRECT PRICING

Gateway		$1,349	
Indoor Temp Sensor		$225	
Outdoor Temp Sensor		$225	
Humidity Sensor		$225	
Wireless Dry Contact Sensor		$299	
BinTalk Feed Bin Sensor		$999	
Wireless Water Meter	½"	$249	
	¾"	$299	
	1"	$349	
	1 ¼"	$449	
	1 ½"	$549	

Yearly Subscription by Gateway

BARNTALK®

1st Gateway	2nd Gateway FREE	3rd+ Gateway
$525/year	**+$0/year**	**+$210/year**
For monitoring 1-2 barns.	For monitoring 3-4 barns.	For monitoring 5-6 barns.

Need to cover more than 6 barns?

For Enterprise pricing, contact Sales at 515-220-2727, Option 1.

What Does the Subscription Cover?

Each BarnTalk gateway comes pre-connected with built-in cellular connectivity. No landline, cell phone plan, or internet plan required!

As soon as you turn on the gateway, it automatically connects to the strongest cell carrier. It also works across multiple carriers for added back up in case one carrier were to have an outage.

The BarnTalk subscription covers this connectivity, as well as **sending the data collected by the customer's BarnTalk system to their app.**

BinTalk and BinTrac Subscription:

The BarnTalk Gateway subscription is $49/month or $525/year subscription and will have a subscription increase of $10/month or $120/year with the addition of BinTalk feed bin sensors. This subscription is based on the number of Gateways with BinTalk and not based on the total number of BinTalk feed sensors.
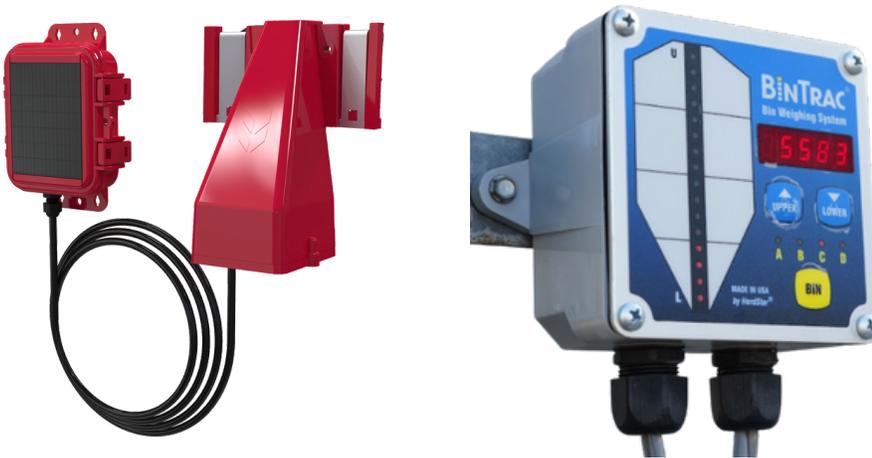
How is the Subscription Set Up?

Subscription will start **30 days after the date of installation** and can be setup at the time of purchasing your hardware or shortly after **by contacting support@barntools.com** or calling **515-272-5122.** Either way, the **first 30 days of subscription are free.**

How is the Subscription Paid?

Subscription payment can be setup to be paid monthly or annually (***annual subscription saves $63/yr over monthly***). Monthly must be setup with a credit card or ACH but we will accept a check for annual.

Checks can be mailed to: BarnTools 11236 NW Aurora Ave. Urbandale, IA 50322.

BARNTALK®
Site Layouts

1-Barn Finisher

1,200 Head

~190 ft.

~50 ft.
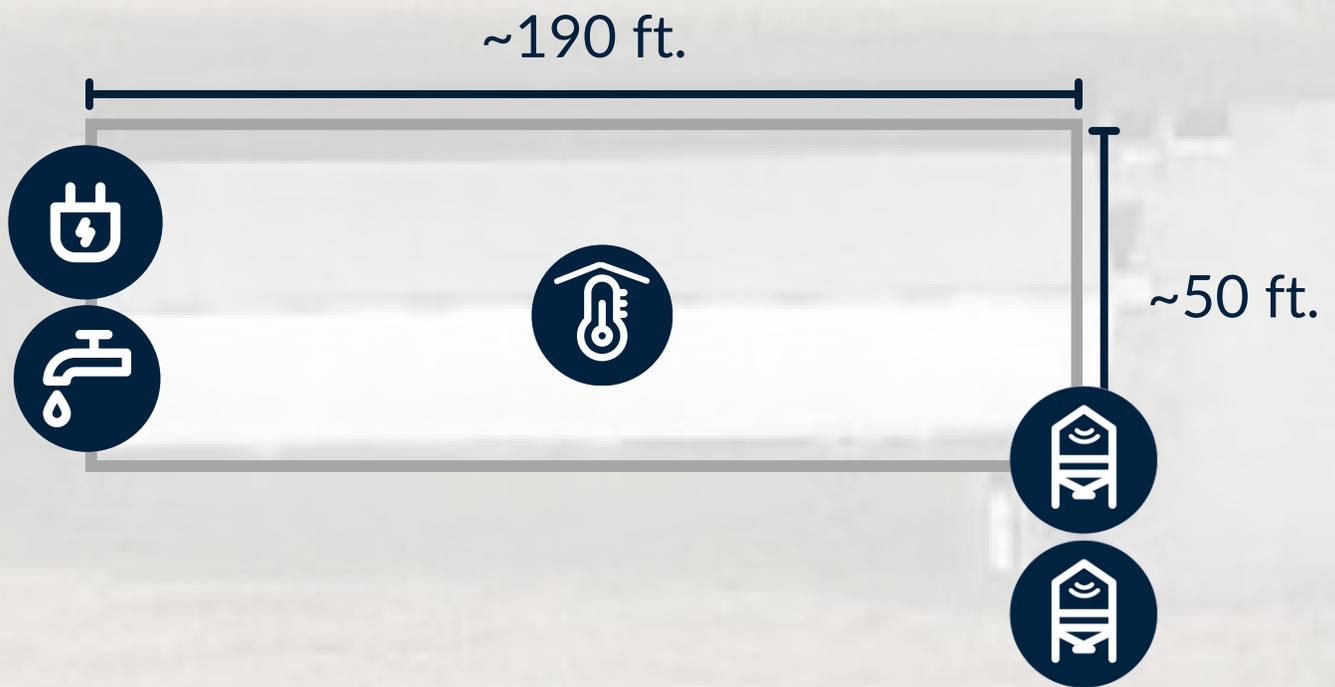
1 Gateway

2 BinTalk Sensors

1 Indoor Temp Sensor

1 Water Meter, 3/4"

Swine Double Wide

2,400 Head
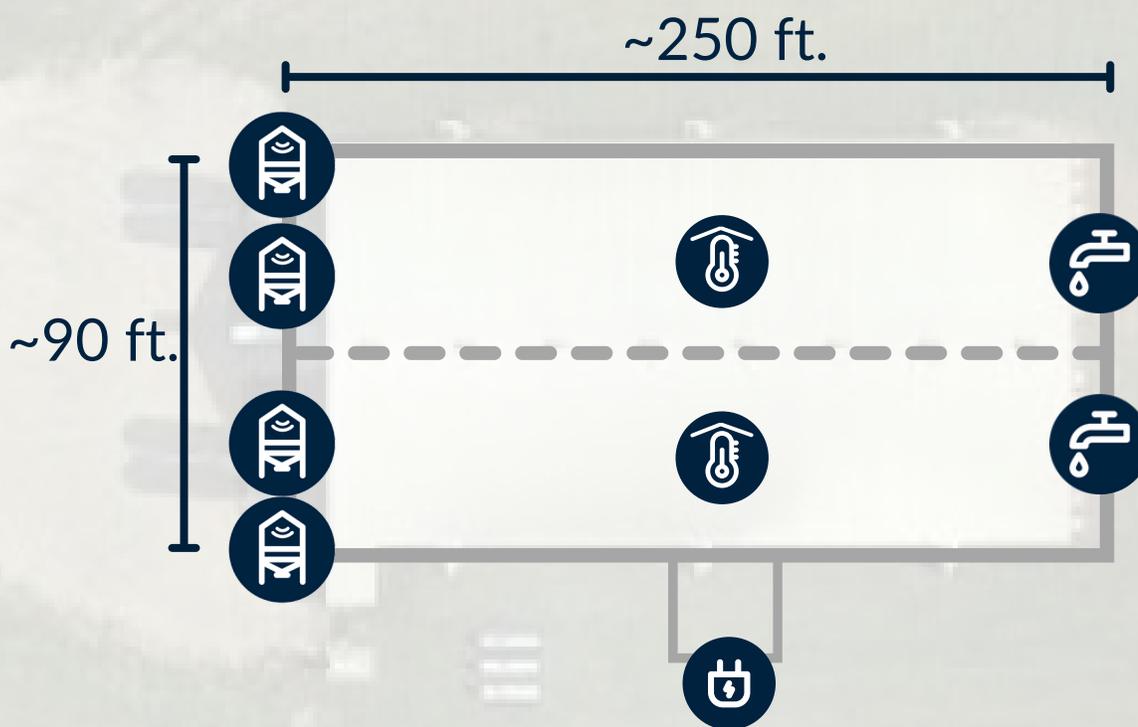
- **1** Gateway
- **4** BinTalk Sensors
- **2** Indoor Temp Sensors
- **2** Water Meters, 3/4"

Double Long Finisher

2,400 Head

1 Gateway

4 BinTalk Sensors

2 Indoor Temp Sensors

2 Water Meters, 3/4"

2-Barn Swine Layout
2,400 Head

~75 ft.

~240 ft.

~35 ft.

1 Gateway

4 BinTalk Sensors

2 Indoor Temp Sensors

2 Water Meters, 3/4"

1 WDC Sensor

H-Style Finisher
4,800 Head

~100 ft.

~300 ft.

~80 ft.
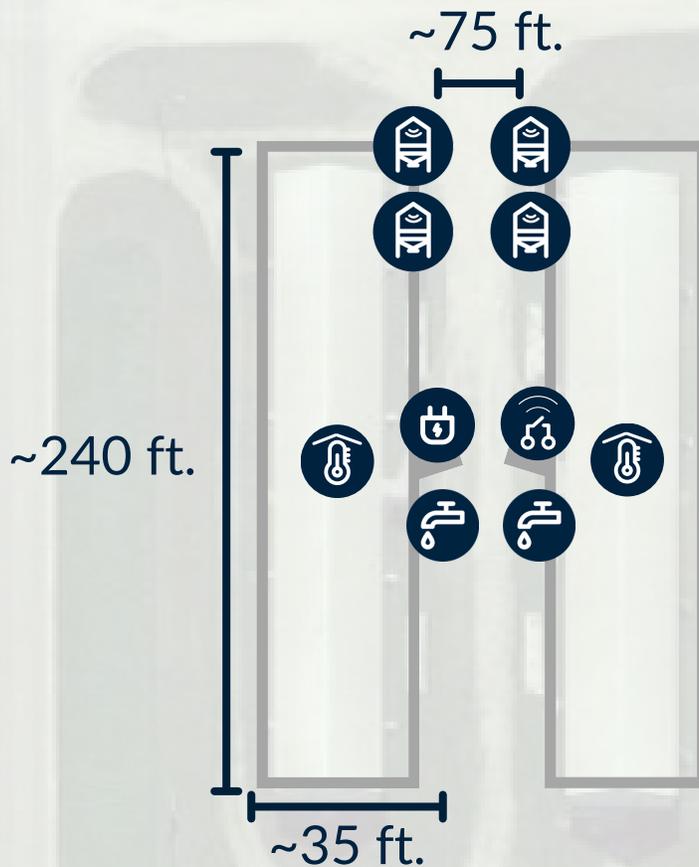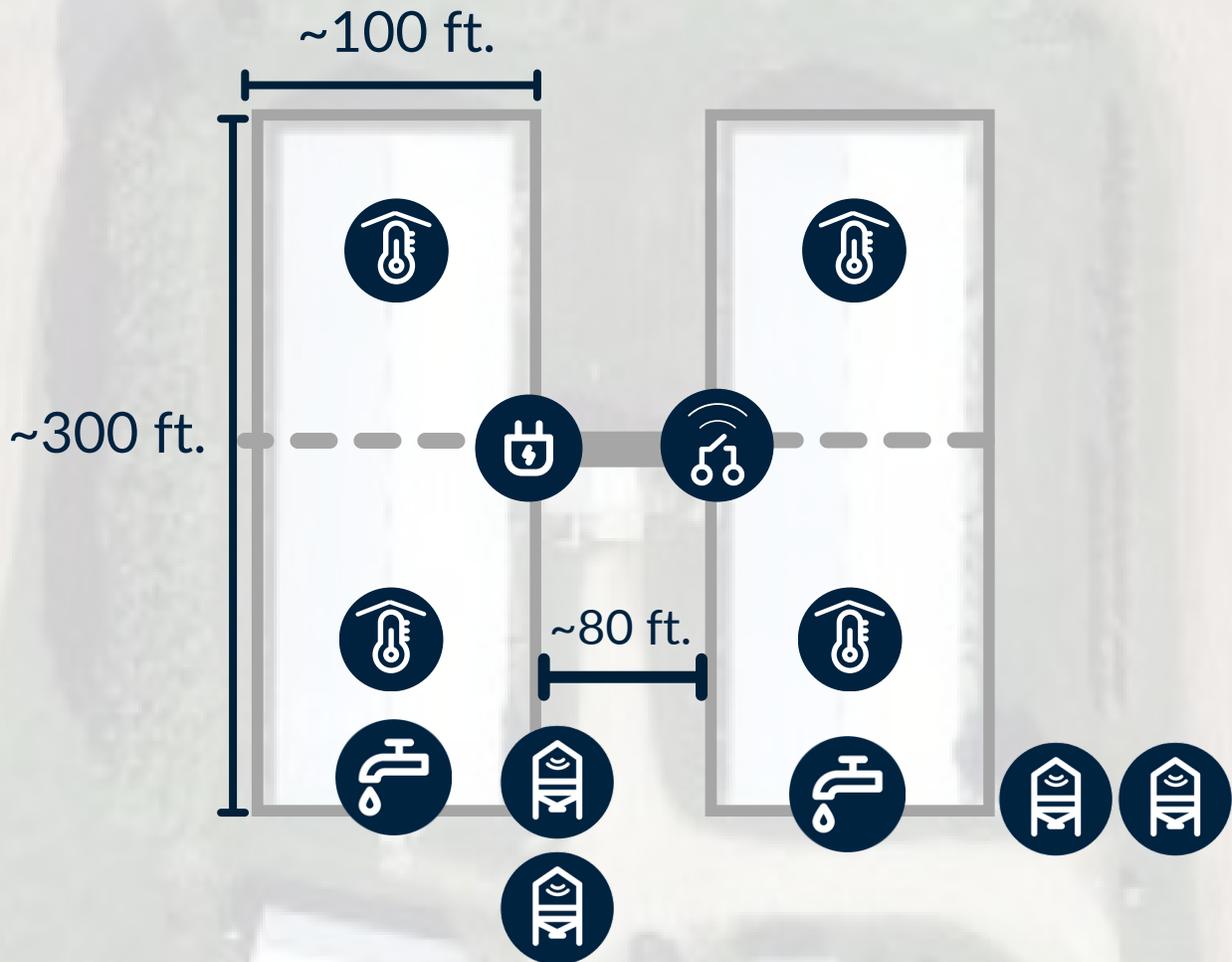
⚡	**1** Gateway	🚰 **2** Water Meters, 3/4"
📦	**4** BinTalk Sensors	📶 **1** WDC Sensor
🌡	**4** Indoor Temp Sensors	
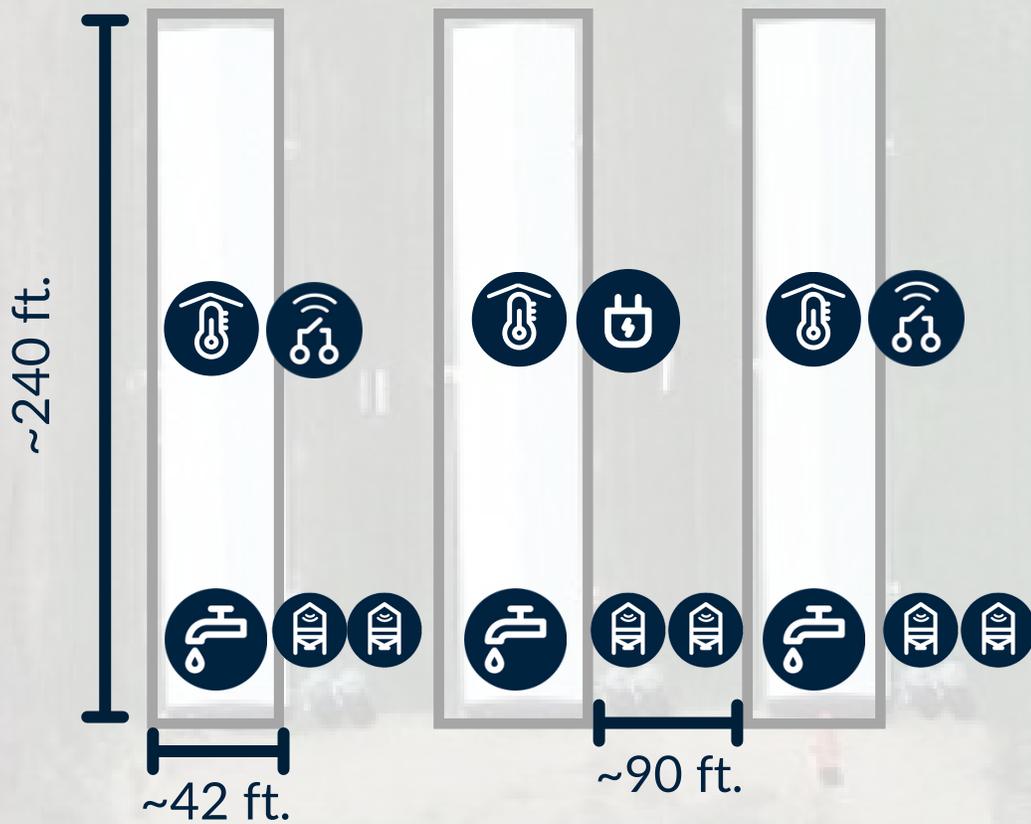
4 Barn Finisher

4,800 Head

~90 ft.

~350 ft.

~46 ft.
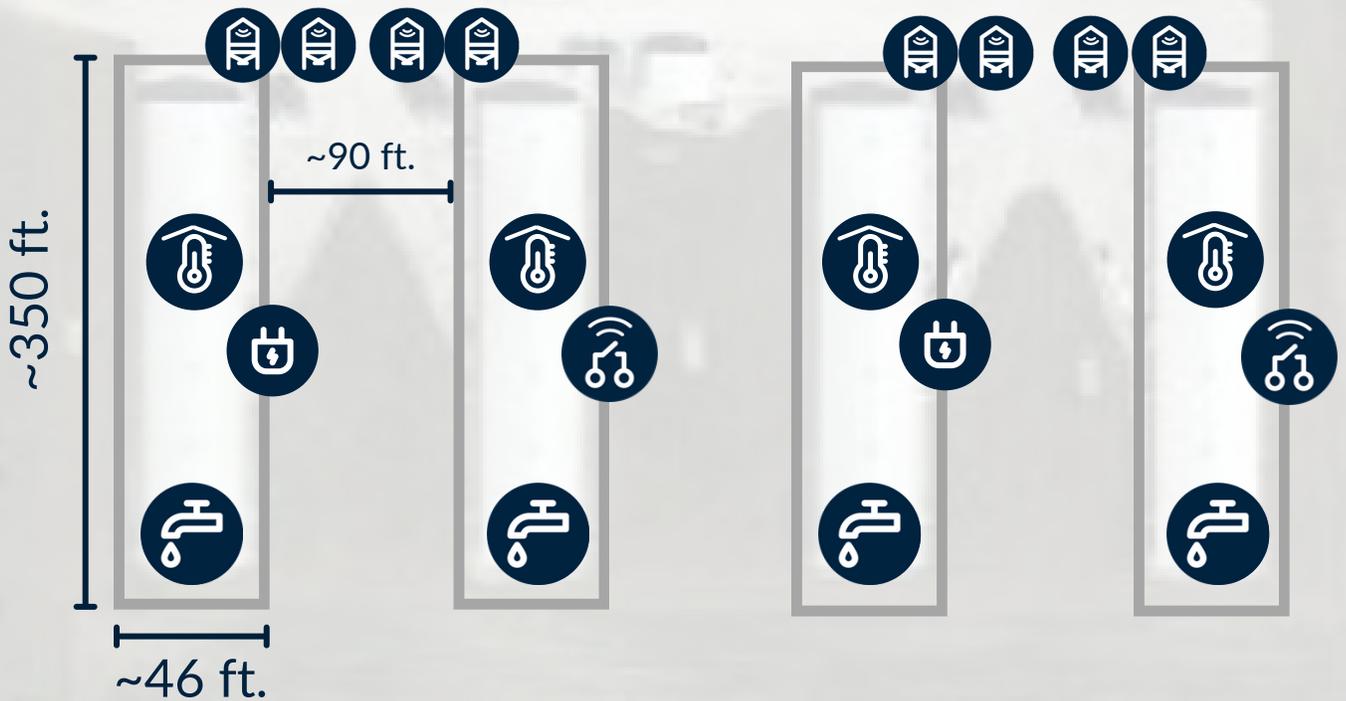
🔌 **2** Gateways

🏠 **4** Indoor Temp Sensors

⬛ **8** BinTalk Sensors

🚰 **4** Water Meters, 3/4"

📡 **2** Wireless Dry Contacts

Sow Farm Layout

~200 ft.

~80 ft.

~65 ft.

~530 ft.

~38 ft.

~100 ft.

3 Gateways

2 Wireless Dry Contacts
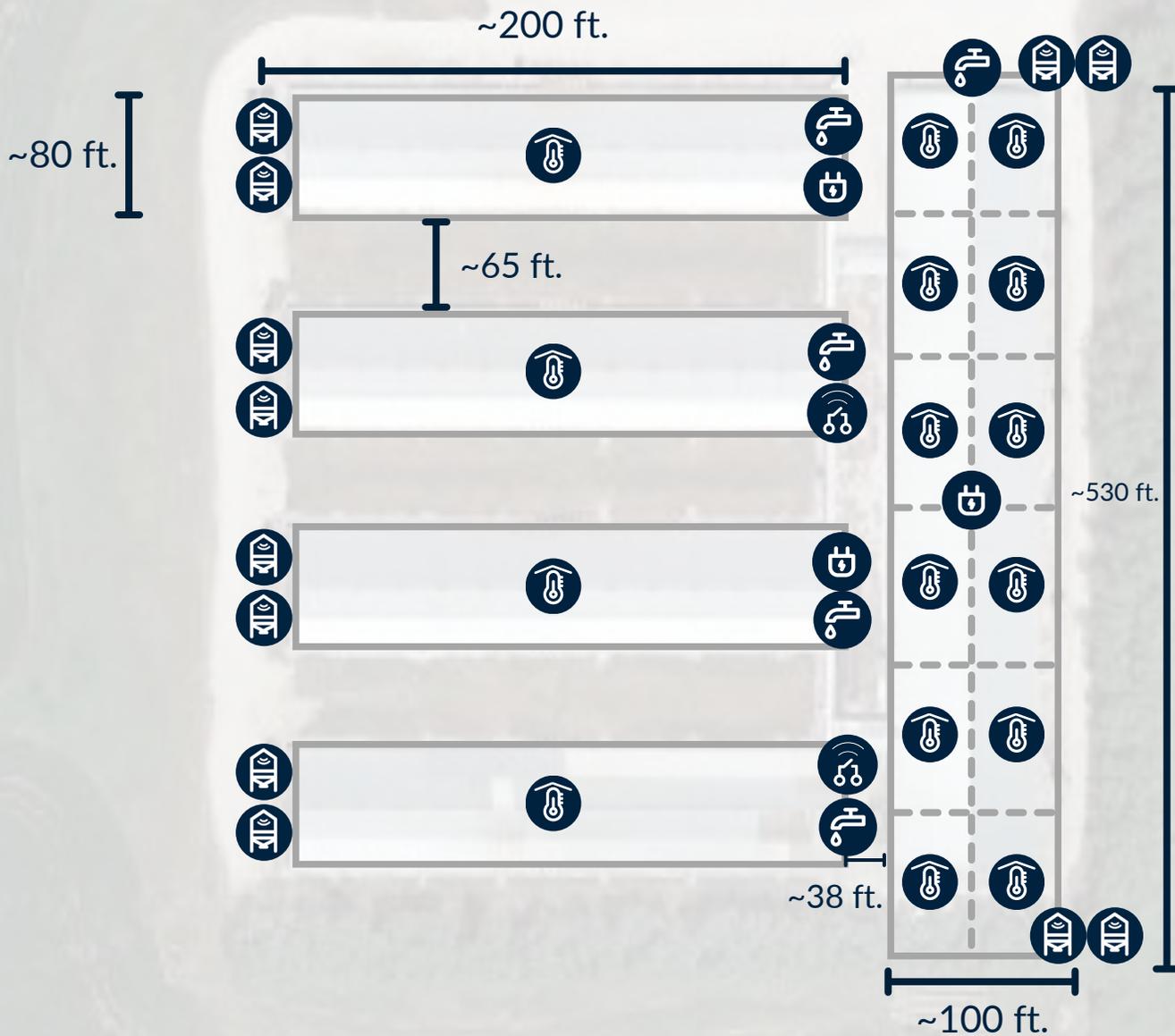
12 BinTalk Sensors

16 Indoor Temp Sensors

5 Water Meters, 3/4"

14

Poultry Site Layout

4 Houses

60 ft

400 ft

40 ft
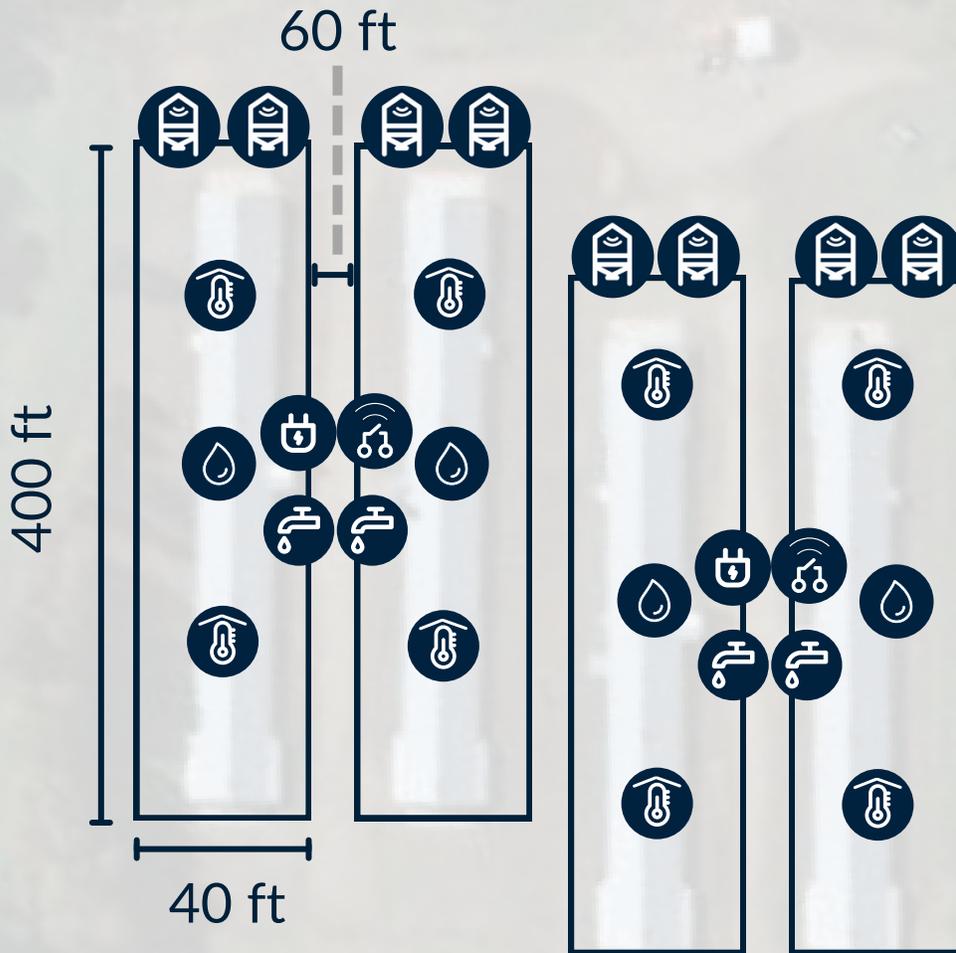
⚡ **2** Gateways

📡 **2** Wireless Dry Contacts

🛢 **8** BinTalk Sensors

🌡 **8** Indoor Temp Sensors

🚰 **4** Water Meters, 3/4"

💧 **4** Humidity Sensors

Poultry Site Layout

8 Houses

40 ft

60 ft

400 ft
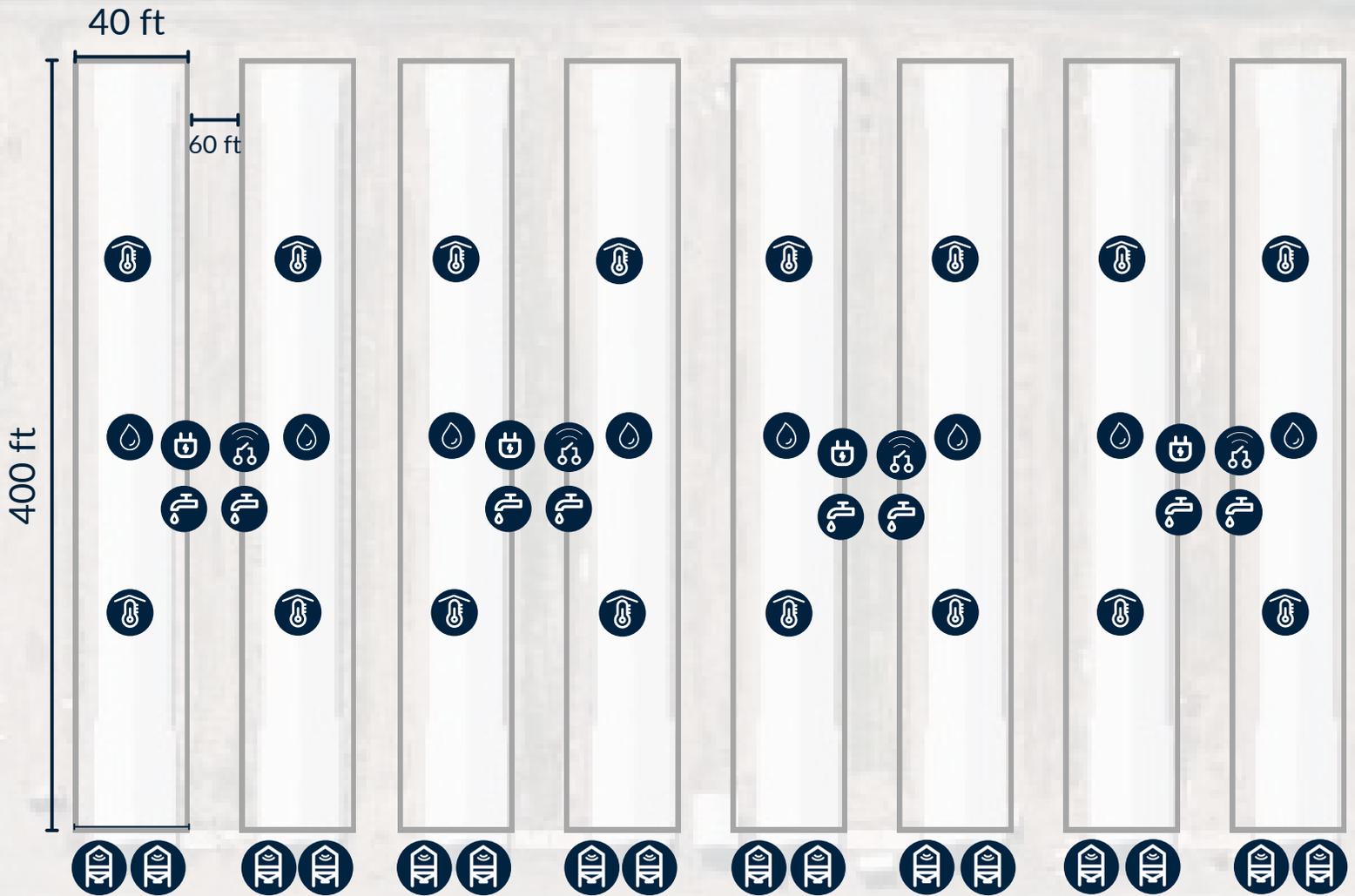
⚡	**4** Gateways	
📶	**4** Wireless Dry Contacts	
💧	**8** Humidity Sensors	
🚰	**8** Water Meters, 3/4"	
🌡	**16** Indoor Temp Sensors	
⛃	**16** BinTalk Sensors	

BARNTALK® USER MANUAL

Oct. 2023

BARNTOOLS™

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SITE LAYOUT

A **single Gateway** can cover **two barns** on your site.

• The **Gateways should be centrally located** on your site.
• Sensors should be **placed within 700 ft. of the Gateway** for best connection.
• **Minimize barriers between the antenna and sensors,** including thick concrete/steel walls.
• Hang or place sensors **at least 1 foot away** from walls to optimize connectivity.

2–BARN SITE LAYOUT

~360 ft.
~75 ft.
~50 ft.
~240 ft.
~92 ft.
~35 ft.
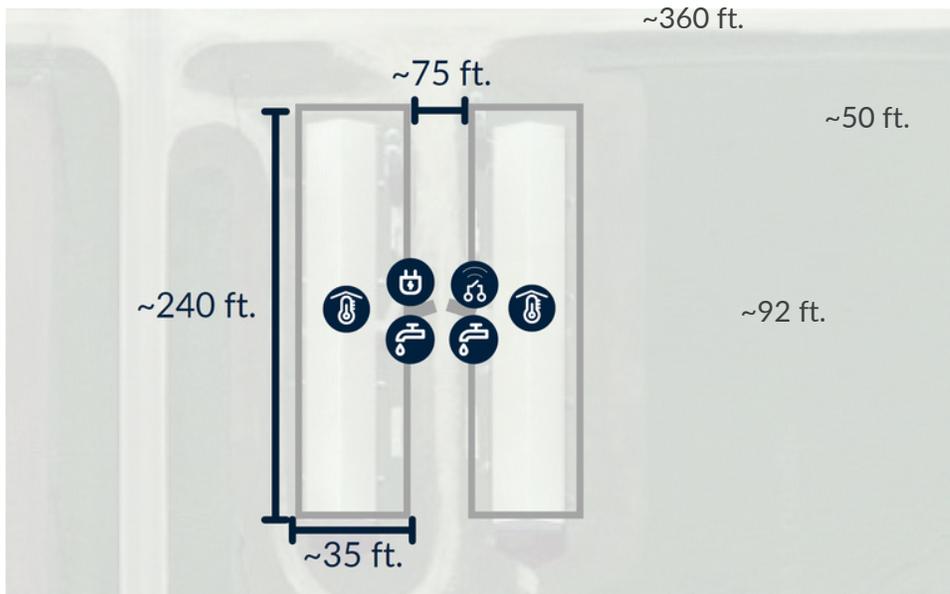
1 Gateway

1 Wireless Dry Contact

2 Water Meters, 3/4"

2 Indoor Temp Sensors

4–BARN SITE LAYOUT

~90 ft.
~350 ft.
~46 ft.
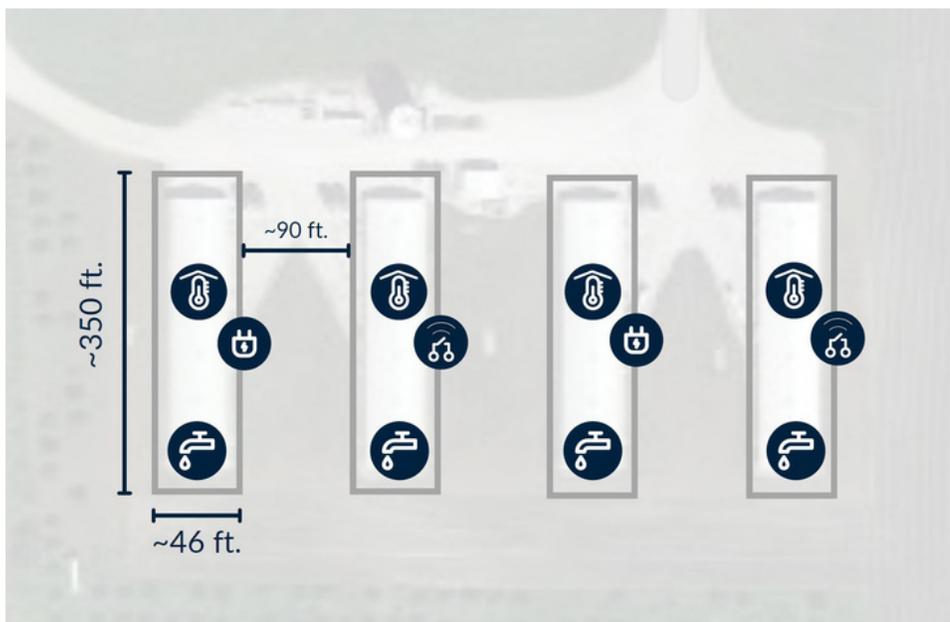
2 Gateways

2 Wireless Dry Contacts

4 Water Meters, 3/4"

4 Indoor Temp Sensors

GETTING STARTED

Thank you for purchasing the BarnTalk Wireless Alarm package.

Please read this manual carefully to familiarize yourself with all the installation and operating information. Also please visit our website **www.barntools.com/barntalk** regularly for updated manuals and product information.

GATEWAY

• Please keep the power plug clean and dry to avoid electric shock or other potential danger.

• Please conduct all the wiring with power off. DO NOT use any damaged or aged cables.

• For any abnormal behavior such as smoke, sound or smell during usage, please stop immediately, turn off the power, disconnect the power source and contact BarnTools.

GATEWAY INTRODUCTION

Light	Color	Frequency	Definition
Power Button LED	Green	Off	The device is off
		1 second on and 1 second off	The device is trying to connect with the cellular network
		3 seconds on and 3 seconds off	The device is connected and is initiating communication
		0.5 seconds on and 10 seconds off	The device is connected and uploading data to cloud. Working normally
Pairing Button LED	Red	On for 1 second	Successfully paired with the sensor

WIRING

Step 1: Remove all six screws on the gateway box and open the gateway cover.

Step 2: Pass all the wires through the waterproof power connector and attach to each terminal with a Philips screwdriver.
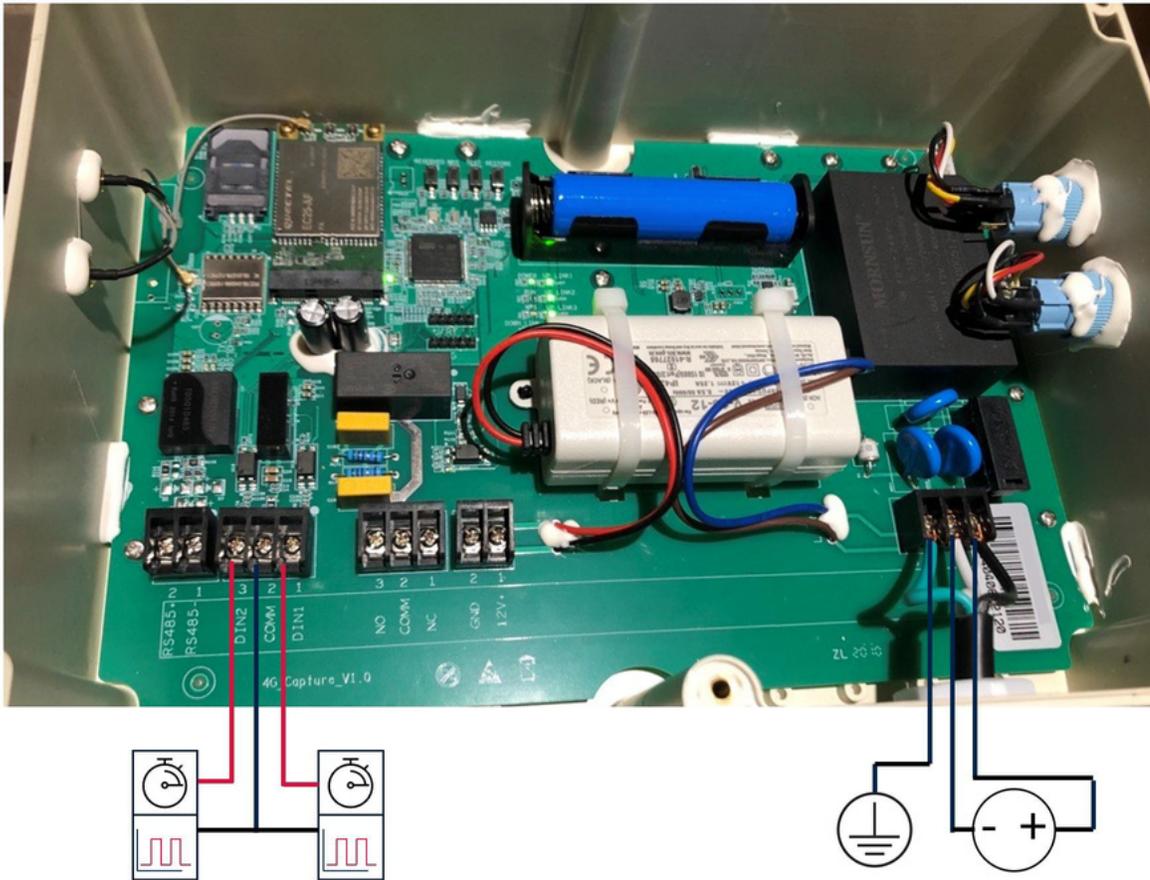
Step 3: Tighten the waterproof power connector to "clamp" the wires with the rubber grommet.

> ⚠️ • DO NOT allow unauthorized personnel to open the gateway.
> • Make sure to disconnect the device from any external power during wiring.

FIRST TIME USE

The gateway contains one internal rechargeable battery. If it is the first time using the gateway, or the device has not been used for a very long time, connect the gateway with the external power supply and recharge the battery for 15 minutes before use.

Step 1: Attach antenna cables to the ports on the Gateway

Step 2: Plug the power cord into a power source

Step 3: Press the green button to turn on the Gateway
 a. Green light will flash every (3) seconds during power up
 b. Once connected to the internet it will flash every 10 seconds

EVERYTHING YOU NEED TO KNOW ABOUT GATEWAY INSTALLATION:

- Mount the Gateway to the wall near a power source, ideally the same power circuit as the ventilation controller.
- Plug into a service outlet or hard wire into existing line to prevent unintentional unplugging
- Install both antennas

The antennas are physically interchangeable
- **Mount the antenna connected to the cellular port outside for best connectivity.** Close to a window or outside wall may work in some locations
- Sensor antenna should be placed close to the sensors for optimal data reception
- Use provided metal brackets. Attach the brackets to the wall, set the magnetic base of the antennas on the bracket, secure with zip tie if needed.
- Keep a distance of 30 cm (12 inches) between two antennas.
- Keep a distance of 1.5 meters at least between BarnTalk devices and any kind of controllers to avoid interference.

WIRELESS INDOOR TEMPERATURE SENSOR

EXTERNAL COMPONENTS

Insert adjustable ratchet rope to hang sensor

Sensor Cap

Sensor Probe

INTERNAL COMPONENTS
• Make sure to loosen the cable gland before unscrewing the cap

Power Switch (Slide Right to power on)

Green LED

Pairing Button (press down)

Red LED

A user can observe the sensor's operating status by observing the LEDs. Push the Pairing button once for <1 second and observe the LED.

Action	Green LED	Red LED	Status
Press pairing button	OFF	OFF	Sensor is off or dead battery
Turn power ON	On .5 sec	ON .5 sec (green)	The device is just powered on
Press pairing button	ON 2 sec	OFF	Sensor is powered, but not paired
Hold pairing button (during pairing)	OFF	ON	Pairing successful
Press pairing button	ON 1 sec	ON .5 sec (after Green)	Currently paired to Gateway

⚠ • DO NOT submerge in water and DO NOT allow unauthorized personnel to open.
• Follow the battery instructions carefully to avoid potential fire, explosion or other hazards.
• Please use the same type of battery for replacement.

WIRELESS OUTDOOR TEMPERATURE SENSOR

EXTERNAL COMPONENTS

Insert adjustable ratchet rope to hang sensor

Sensor Cap

Sensor Lead and Probe

INTERNAL COMPONENTS

- Make sure to loosen the cable gland before unscrewing the cap

Power Switch (Slide Right to power on)

Green LED

Pairing Button (press down)

Red LED

A user can observe the sensor's operating status by observing the LEDs. Push the Pairing button once for <1 second and observe the LED.

Action	Green LED	Red LED	Status
Press pairing button	OFF	OFF	Sensor is off or dead battery
Turn power ON	On .5 sec	ON .5 sec (green)	The device is just powered on
Press pairing button	ON 2 sec	OFF	Sensor is powered, but not paired
Hold pairing button (during pairing)	OFF	ON	Pairing successful
Press pairing button	ON 1 sec	ON .5 sec (after Green)	Currently paired to Gateway

⚠️
- DO NOT submerge in water and DO NOT allow unauthorized personnel to open.
- Follow the battery instructions carefully to avoid potential fire, explosion or other hazards.
- Please use the same type of battery for replacement.

WIRELESS HUMIDITY SENSOR

EXTERNAL COMPONENTS

Insert adjustable ratchet rope to hang sensor

Sensor Cap

Sensor Probe

INTERNAL COMPONENTS
• Make sure to loosen the cable gland before unscrewing the cap

Power Switch (Slide Right to power on)

Green LED

Pairing Button (press down)

Red LED

A user can observe the sensor's operating status by observing the LEDs. Push the Pairing button once for <1 second and observe the LED.

Action	Green LED	Red LED	Status
Press pairing button	OFF	OFF	Sensor is off or dead battery
Turn power ON	On .5 sec	ON .5 sec (green)	The device is just powered on
Press pairing button	ON 2 sec	OFF	Sensor is powered, but not paired
Hold pairing button (during pairing)	OFF	ON	Pairing successful
Press pairing button	ON 1 sec	ON .5 sec (after Green)	Currently paired to Gateway

⚠️
• DO NOT submerge in water and DO NOT allow unauthorized personnel to open.
• Follow the battery instructions carefully to avoid potential fire, explosion or other hazards.
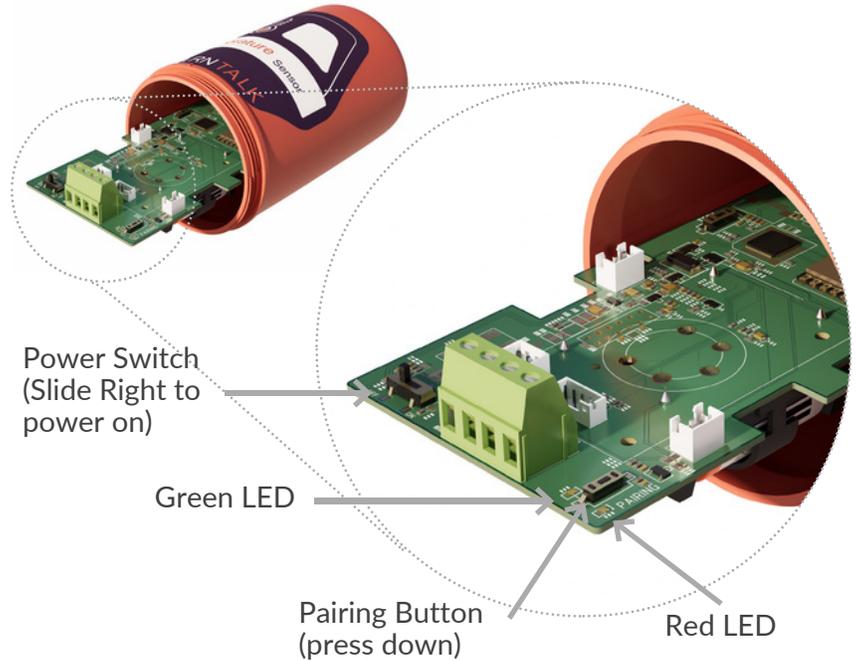• Please use the same type of battery for replacement.

SENSOR PAIRING: Scan To Pair Method

1. Make sure the Gateway is turned on and the antennas are attached.

2. Open the BarnTalk app and click on the Gateway tile you would like to pair your sensor(s) to.

3. Click the ⚙ in the top right and "Add Sensor" when prompted.

4. The app will then bring up your phone's camera. Move the camera to view the sensor barcode to allow for scanning.

NOTE: *If the barcode is unscannable or the camera does not open, the sensor serial number can also be manually entered for pairing.*

ⓘ Visit **go.barntools.com/pair** to learn more.
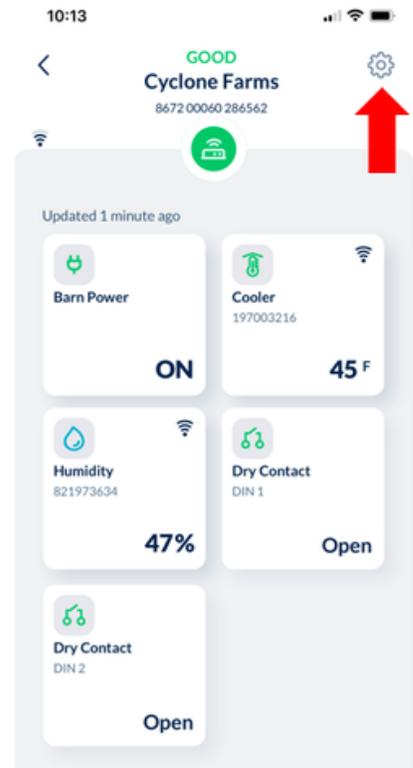
SENSOR PAIRING: Push Button Pairing

1. Open the Sensor by unscrewing the cap on the sensor (Make sure to loosen the cable gland before unscrewing the cap)

2. Slide the power switch on the circuit board to "ON" (slide left switch to the right)
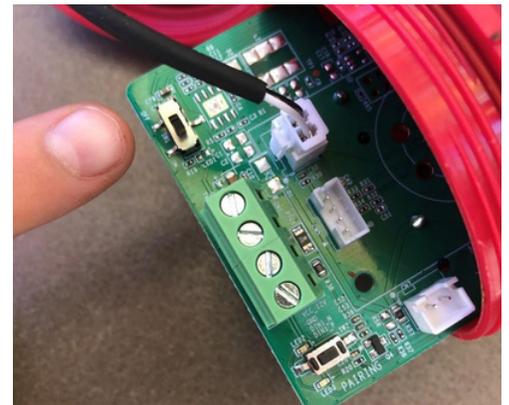
3. Press and hold the red "pairing" button on the Gateway and on the sensor's circuit board (on the right) at the same time. Hold for 10 seconds or until you see a red light on either the Gateway or the circuit board, next to the pairing button.

4. Reinstall the sensor cap, tighten until the notches align.

CONNECTION CHECK

- To check for a connection, press the pairing button on the sensor.
- A green light (LED 1) will flash, followed by a red light flash (LED 2).
- This confirms a connection between the sensor and the gateway.
- If the red light does not flash, pair again.
- You can also check for a connection when mounting the sensor in the building.
- Follow the same process, if you see the red light flash a connection is verified.
- If no red light, you should move the sensor closer to the gateway

EVERYTHING YOU NEED TO KNOW ABOUT PAIRING OF SENSORS:

- Each sensor must be connected (paired) to its gateway!
- It can take up to 15 minutes for a newly paired sensor to show on the app.
- Recommend pairing sensors in shop or office with a good cell service, then install in the barn after pairing and naming the sensors
- The best practice is to write name of sensor on the sensor's housing sticker. Edit the sensor name in the app to match. Hang in barn accordingly. Example:
  - Write on sensor = "West Barn, North Room" (do this when pairing)
  - Edit sensor name in the app = W. Barn, North (after sensor is visible in the app)
  - Hang sensor in the west barn near the north end (upon installation)

PLACE OR HANG THE SENSORS

EVERYTHING YOU NEED TO KNOW ABOUT PAIRING SENSORS:

- Place sensors in different areas of the building.
- Use zip tie, or S-hook to mount sensor from ceiling. Keep out of reach of animals.
- For best results do not power wash the sensors directly
- Label sensors before placing them and name them in the app (see pairing of sensors for more information)
- Outdoor sensor has an 8' lead wire for positioning the probe outside as desired. Sensor canister should stay indoors to ensure long battery life (extreme temperatures reduce battery life)
- Sensor signal strength is dependent on distance from the gateway and the number of obstacles between sensor and gateway. These include walls and metal structures such as bins.
- For best results, place your sensors within 700 feet of the Gateway.Signal strength can be checked by opening the sensor tile in the app.
- To check for a connection while locating the sensor, press the pairing button on the sensor. A green light will flash, followed by a red light flash. This confirms a connection between the sensor and the gateway. If the red light does not flash move the sensor closer to the gateway.

GATEWAY'S DRY CONTACT

WHAT IS DRY CONTACT?

• Simple circuit that is either Open (no wire connected) or Closed (wire or connection between the terminals)

• All Gateways have (2) Dry Contacts available: Dry Contact 1(DIN1) and Dry Contact 2(DIN2). They are always open until the customer wires some circuit into the terminals.

• Wire up the dry contact (see YouTube)

 a. COMM

 b. DIN1

 c. DIN2

Examples of Uses

a. Ventilation Controller error wire (Choretronics, AP Edge, AP Expert (aka AirStream), Rotem, Farm Hand, or AeroTech (Munters). These typically have wires (COM, NC, NO). We prefer customers use COM and NC. This will close the BarnTalk Dry Contact. Using NC allows placing NC devices in series so that one BarnTalk Dry Contact can be used to monitor more than one controller. In this setup you will get notified if either one or multiple throw an error, but users will not be able to determine which one has the error without further investigation.

b. Water Pressure, water pressure pushes the spring up so that 2 contacts are in contact thus closing the circuit. This would cause the gateway to measure a closed state. Whenever the water pressure goes too low the spring forces the switch open creating a state change and can single an alarm.

c. Power (using a relay) when power is running through the relay it is closed. Once the power is cut the relay opens, creating an alarm.

d. Auger would work like power, needs a relay

e. Generator using NC/NO or using a relay
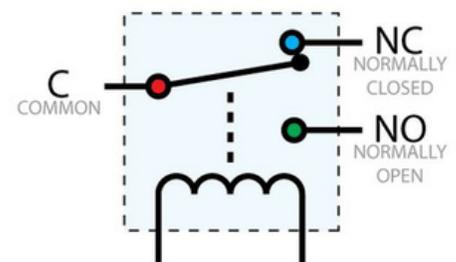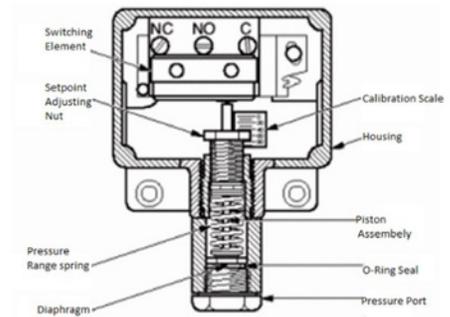
GATEWAY'S DRY CONTACT *CONTINUED*

IMPORTANT NOTES!

a. NO = Normally Open; NC = Normally Closed. Meaning the state of the circuit at rest.
b. It's called a dry contact because there is no electricity in the circuit.
c. When installing, it is best to test the circuit to make sure it works as expected, that is why its best to use NC when possible.
d. You can "gang" two or more NC circuits together on DIN1 or DIN2 by wiring them in series. If one of them closes you will get an alarm going from Closed to Open, but you will not know which circuit is creating the alarm. To do this take the NC wire from Relay #1 and connect to the COM for Relay #2.

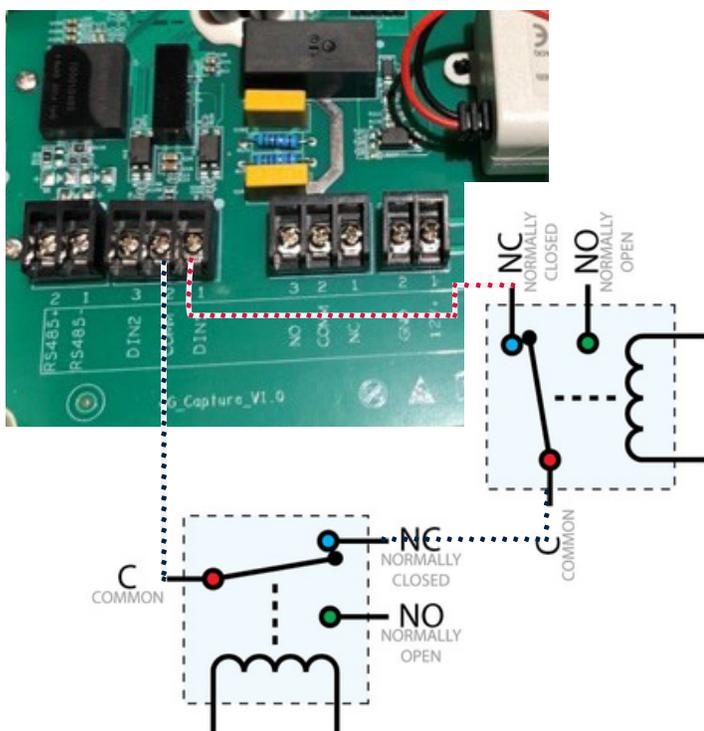## THE BARNTALK APP CONTROLS

Alarm ON/OFF

State Selection

Emergency - SMS & Voice Call requires acknowledgement

Warning - Push Notification

When to notify - immediately or time delay

SQUARE WIRELESS DRY CONTACT SENSOR

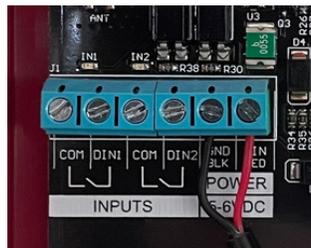## WHAT IS THE WIRELESS POWER MONITOR AND DRY CONTACT SENSOR?

- Each Wireless Dry Contact Sensor can **monitor power and 2 other pieces of equipment.** This sensor can be placed away from the Gateway, in a separate building for example.

- The Wireless Dry Contact Sensor uses the terminals in the sensor (DIN1, DIN2, and COM) to monitor the Open/Closed state of up to 2 circuits.

- **If the power goes out**, the sensor will automatically switch to its battery power source and notify BarnTalk users of the outage.

- Once this sensor is paired with a Gateway, the app will show controls for managing alerts. Visit **go.barntools.com/wdc-alarm** to learn more.

SETTING UP THE SENSOR

1. The sensor comes with a power supply. Use of the power supply is optional. Power monitoring is accomplished by connecting the **Red wire to the +5V terminal** and the **Black wire to the GND terminal**. The power supply will also keep the on-board battery fully charged.

2. Normally Open (NO) or Normally Closed (NC) circuits can be wired into the sensor using DIN1 and either COM terminal. A second circuit can be monitored using DIN2 and either COM terminal.

External power supply included

Wireless Dry Contact Terminals:

- DIN1 and DIN2 (Digital Input)
- COMM (Common) – there are 2 COMM terminals to allow for both circuits.
- COMM terminals are tied together so could actually use either one.

⚠️
- DO NOT submerge in water and DO NOT open it by unauthorized personnel.
- DO NOT connect a powered circuits to this sensor, other than the provided BarnTalk sensor power supply provided.
- Follow the battery instruction carefully to avoid potential fire, explosion, or other hazards.
- Please use the same type of battery for replacement.

SQUARE WIRELESS DRY CONTACT SENSOR

Hinged door for easy wiring

Screw and zip tie mounting

Magnetic mounting

Larger screw terminals

SENSOR BEHAVIOR

Check sensor connectivity by tapping the **pairing button** in the lower right hand corner of the WDC sensor.

After tapping the pairing button, **If the L1 light flashes Green,** then your sensor **IS Communicating**
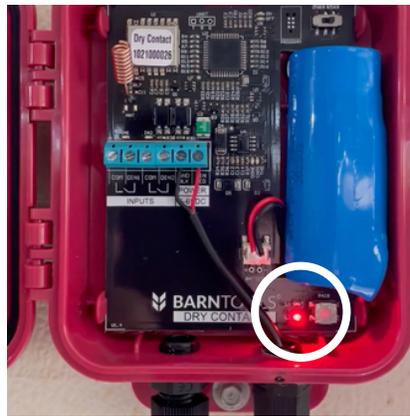
After tapping the pairing button, **if the L2 light flashes Red**, then your sensor is **NOT Communicating.**

If you come across this behavior, first try to pair the sensor to the respective Gateway. If the behavior persists, contact our support team.

Each input (DIN1 & DIN2) will show you if the WDC sensor is reading an 'Open' or 'Closed' circuit right at the sensor! No need to check the app anymore during this step.

An **OPEN** circuit is shown by *flashing* lights, while a **CLOSED** circuit will be shown by a *solid* light.

ⓘ View the full help article at **go.barntools.com/WDC** to learn more.

BINTALK WIRELESS FEED BIN SENSOR

- Connect up to 8 BinTalk sensors per Gateway.

- View your feed bin levels in real-time with the BarnTalk app. Stop climbing bins and prevent feed outages before they happen.

- The camera includes a windshield wiper to keep the lens clean and ensure BinTalk is >96% accurate! The readings become even more accurate as the feed level gets lower.

- Forget about drilling holes. BinTalk's patented clip-on mounting makes installation quick and easy.

INSTALLING YOUR BINTALK SENSOR

1. **Start by unboxing your new BinTalk Feed Sensor.**
   Your BinTalk sensor may be pre-paired to your Gateway. If you don't see your BinTalk sensor in the app, pair it with Scan to Pair. Visit **go.barntools.com/pair** to learn more.

   <u>NOTE</u>: The BinTalk sensor automatically wakes up within 6 hrs. post-install, when paired to the desired Gateway. For a faster reading within 1 hr., open the solar panel cover and press the pairing button. If paired and in range of GW, the 'L1' light will flash green twice after 10-15 seconds. If the **'L2' light flashes red twice,** call Support at 515-272-5122.

2. **Secure the camera sensor to the collar of the feed bin.**
   Note: We recommend sliding this sensor to sit near the hinges of the lid to prevent damage during feed deliveries.

3. **Next, run the connecting cord outside the feed bin and secure the solar panel on the sun facing side of the feed bin (or the side that points to the equator).**
   The solar panel has four powerful magnets on the back to secure it to the top of your feed bin. Ensure the solar panel is mounted so the wires are facing down towards the ground.

4. **<u>MUST BE COMPLETED</u>**: In order to ensure BinTalk provides you with the most accurate bin level readings, visit **go.barntools.com/bins** to enter your feed bin parameters.

5. Put the enclosed Label with BinTalk Serial number on the bin in a prominent place. Use a permanent marker to write the bin number in the white space. This label includes the BinTalk S/N which could be useful for future reference.

USING THE BARNTALK APP

With the BarnTalk app, you can remotely monitor your barn conditions 24/7 and view active alarms.
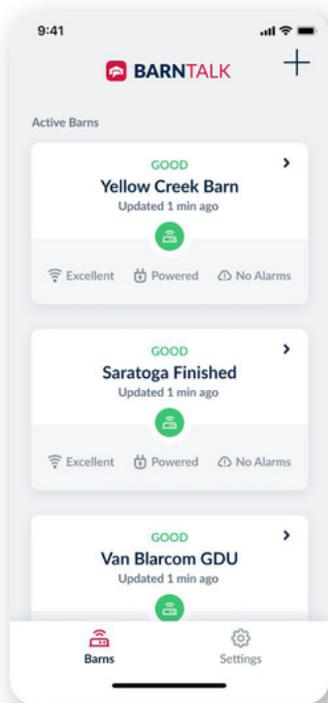
Barn with **No Alarms**
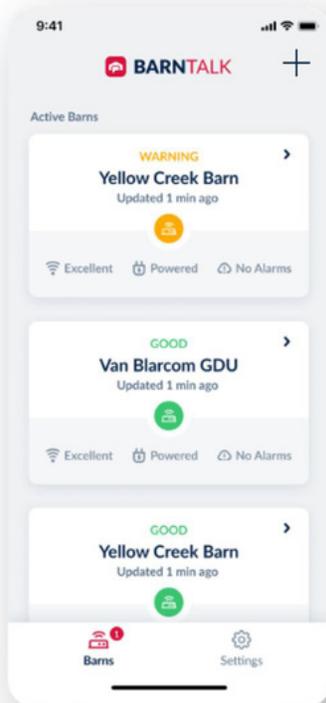
Barn in a **Warning State**

A push notification will be sent to your CallTree.

Barn in an **Emergency State**

An emergency call and text will be sent to your CallTree.

ACCESS IN-DEPTH ALARM DETAILS

When an emergency happens, get prompted to take appropriate actions. To acknowledge alarms, click the "**Attend to alarm**" button inside your BarnTalk app.
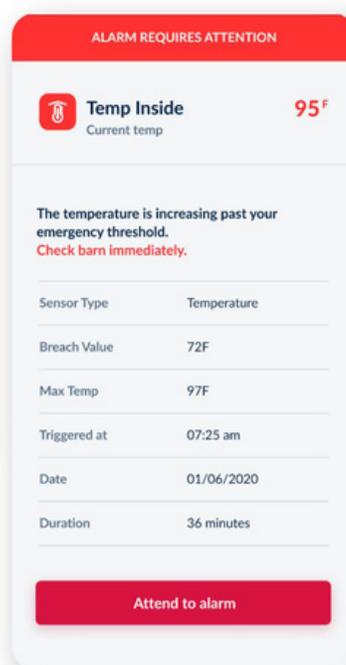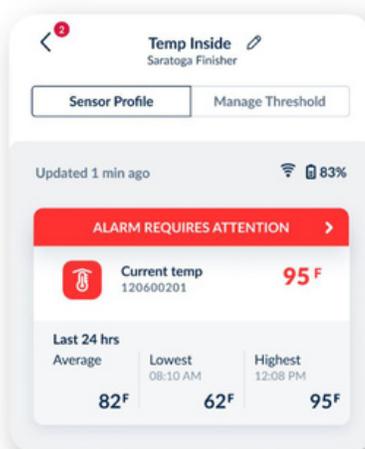
MANAGE YOUR SENSOR THRESHOLDS

Set and adjust your barn's sensor thresholds so you can get notified when barn conditions fall outside of your parameters.

ADJUSTING YOUR THRESHOLDS

1. Select the Gateway for the sensor you'd like to set thresholds for under your "**Active Barns**" list.
2. Click the tile for the sensor you want to adjust the thresholds for.
3. Select the "**Manage Threshold**" tab.
4. Toggle the "**Enable Threshold Settings**" button on.
   • This will allow you to receive alarms when barn conditions fall outside of the thresholds you've set for the sensor.
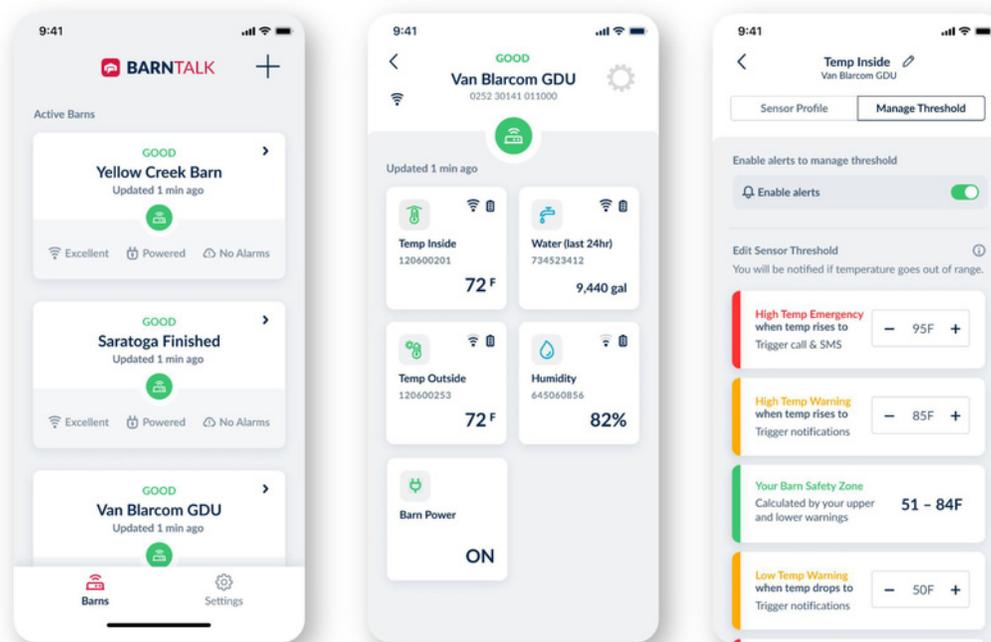
RECEIVING ALARMS

Warning State: A push notification will be sent to your CallTree.

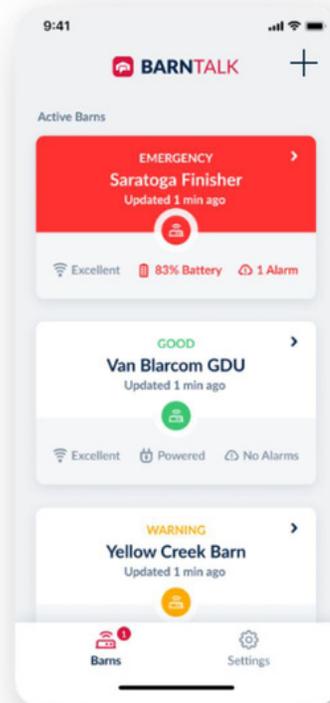**Emergency State:** An emergency call and text will be sent to your CallTree.

5. Scroll down to edit the sensor thresholds for the sensor.
6. Select the plus or minus symbol on the **High Temp Emergency** and **Low Temp Emergency** thresholds.
• If the temperature exceeds these limits, you will **receive a call or text** notifying you of the emergency.
7. Select the plus or minus symbol on the **High Temp Warning** and **Low Temp Warning** thresholds.
• These set points should be between 2 to 5 degrees *below* your High Temp Emergency threshold, and 2 to 5 degrees *above* your Low Temp Emergency threshold.
8. Click "**Save Settings**."
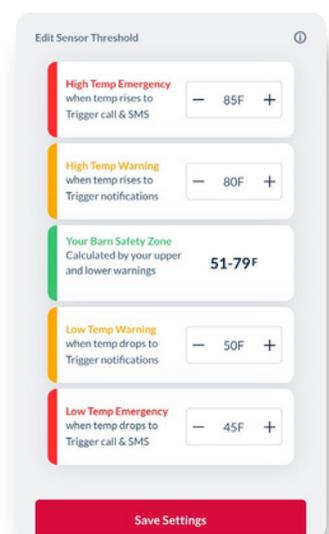
RENAME YOUR GATEWAYS AND SENSORS

NAMING YOUR GATEWAY

1. Select the Gateway you would like to rename under your **Active Barns** list.
2. Click the gear icon and select "**Rename Your Barn**."
3. Type in the name for your Gateway.
4. Hit "**Save**."
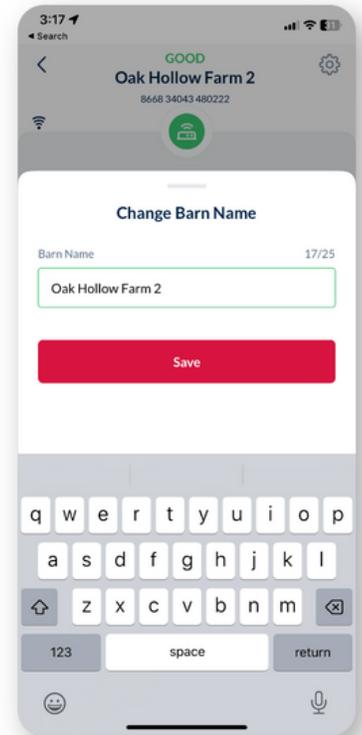
NAMING YOUR SENSORS

1. Select the Gateway for the sensor you would like to rename under your **Active Barns** list.
2. Click the **tile for the sensor** you would like to rename.
3. Click the pencil icon next to the current name of your sensor.
4. Type in the new same for your sensor.
5. Hit "**Save**."

You can also **change the name of your Gateway and sensors at any time** by following the same process.
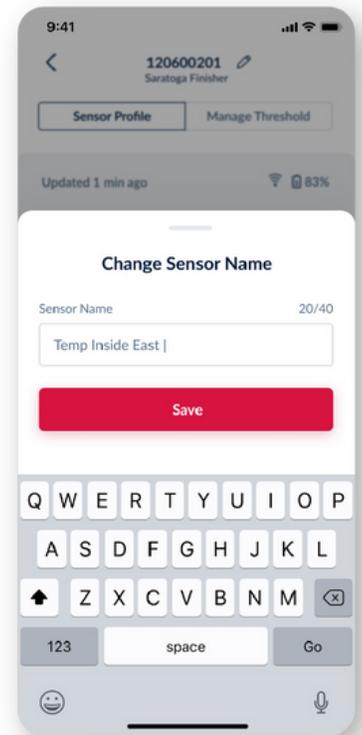
SETTING UP YOUR CALLTREE

Build a team of people in your organization **to help monitor your barns.**
They will be **notified in the order of the CallTree** when barn conditions fall outside of the norm.

INVITE SOMEONE TO YOUR CALLTREE

1. Select the **Gateway for the CallTree** you would like to edit.
2. Click the gear icon in the top right-hand corner and select "**Manage CallTree**."
3. Select "**Edit List**" at the bottom of the screen.
4. Invite a team member from your phone's contact list. An SMS will be sent to the person.
5. The new team member **will be added to your CallTree list**.
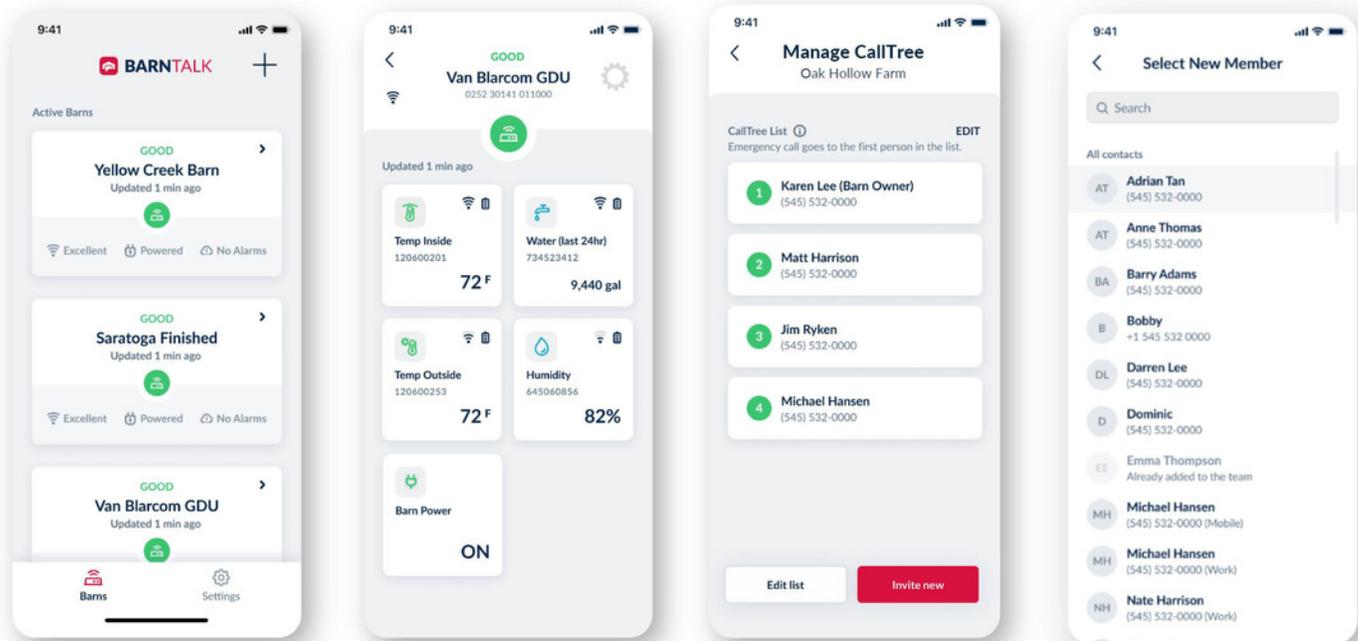
SETTING UP YOUR CALLTREE *CONTINUED*

ARRANGE THE ORDER OF YOUR CALLTREE

1. Select the Gateway for the CallTree you would like to edit.

2. Click the gear icon in the top right-hand corner and select "**Manage CallTree**."

3. Select "**Edit List**" at the bottom of the screen.

4. Touch the Up and Down Arrows to arrange the order of your CallTree.

5. Click the red "**Save**" button.
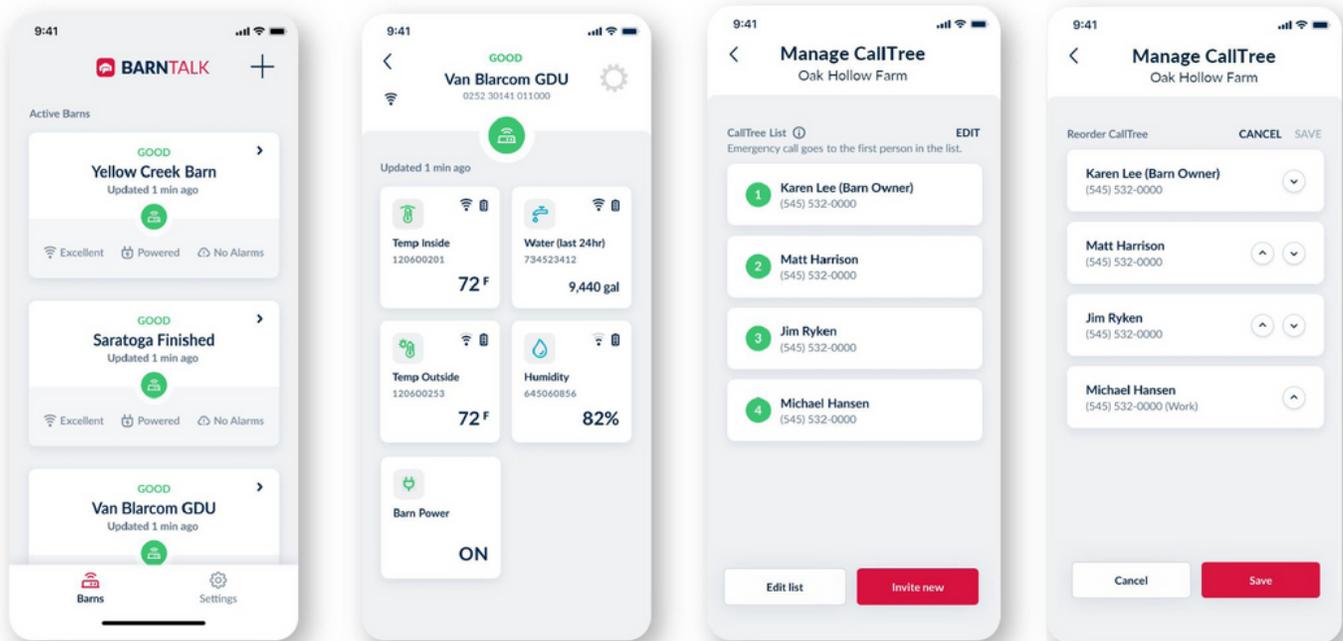
GATEWAY AND SENSOR BATTERY REPLACEMENT

GATEWAY BATTERY
18650 Lithium Ion Rechargeable Cell (3.6V AA 2400mAh)
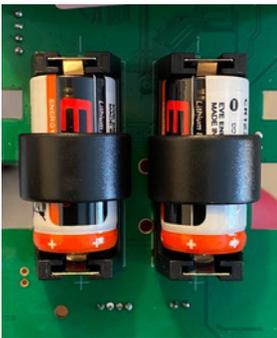
SENSOR BATTERY
CR123A Lithium Ion 3V

Name/Title	Vendor	Brand	Vendor Part #	UOM	Description
Battery - Gateway	BarnTools	3.6V AA 2400mAh Lithium Ion Battery (rechargeable)	BT-HW-05-00	EA	Battery - Gateway
Battery - BarnTalk Tube Sensor	BarnTools	CR123A 3.0V Lithium Ion Battery (non- rechargeable)	BT-HW-04-00	EA	Battery - BarnTalk Tube Sensor

BATTERY RANGES

Device	Voltage Range	RSSI (dbm)
Gateway	2.4 to 4.2	-114 to 0 (4G)
Sensor	1.4 to 3.3	-145 to 0

FAQ

Q1: How do I restart the gateway?

Press the green power button on the right and release the button to see if the Running LED is off. Wait for 5 seconds and press the button again to see if the Power button LED is flashing.

Q2: How do I pair the sensors with the gateway?

Refer to the Sensor Pairing section on [PAGE #].

Q3: How do I connect the gateway with my APP after the installation?

• In the BarnTalk App, click the + in upper right-hand corner
• Scan the bar code (serial number) on the front of the gateway or type in the number
• If you are the first person to scan that bar code you will be assigned as the owner.
• If someone else has already been assigned to that Serial Number, you will get an error message and need to contact BarnTools to get it resolved.

Q4: How do I fix device showing offline in APP?

• Check if the gateway green Running LED flashes, if it doesn't flash check the external power supply.
• Restart the gateway wait for 2 minutes and check if the Running light flashes.

Q5: How do I improve gateway signal?

• Check if the antenna attachment is loose.
• Check the installation of the cellular antenna, suggest moving the antenna outside of the barn / house.

LIMITED WARRANTY

BarnTools, LLC ("**BarnTools**") warrants to the first end user that all BarnTalk hardware components sold: (a) are compatible with the software provided by BarnTools and (b) are fit for use in connection with the software services provided by BarnTools at the time of purchase. This limited warranty applies only to BarnTalk hardware components that are properly installed, operated and maintained under industry standard conditions. Without limiting anything to the contrary herein, this warranty shall not apply to, and in no event shall BarnTools be liable for damages arising out of or resulting from, any BarnTalk hardware components which have been subjected to improper storage or application, misuse or neglect, alteration, improper handling or transport, improper installation or repair, or that have been damaged or rendered inoperable by power outage, lightning, flood, or other extreme weather events or acts of God (collectively "Uncovered Events"). For purposes of clarity and without limiting anything to the contrary herein, BarnTools shall not be held liable for damage to any animals or other livestock, or other personal objects under any circumstances. See BarnTalk TotalCare at https://barntools.com/warranty for details on the extended warranty plan for coverage of these "Uncovered Events".

BARNTOOLS' OBLIGATION UNDER THIS WARRANTY IS LIMITED TO REPLACEMENT OF ANY BARNTALK HARDWARE COMPONENTS IF BARNTOOLS FINDS THAT THE HARDWARE COMPONENTS DO NOT CONFORM TO THIS LIMITED WARRANTY. Upon completion of the warranty determination, whether accepted or denied, returned parts become the sole property of BarnTools.

This limited warranty shall go into effect on the date of purchase of the hardware components by the first end user and will remain in effect for a period of one (1) year thereafter so long as the hardware is registered to an active subscription for BarnTalk software services. In addition to and without limiting the foregoing, this limited warranty will terminate automatically upon termination of the BarnTalk software subscription linked to the BarnTalk hardware.

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CASE REGARDLESS OF WHETHER BARNTOOLS WAS ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES OR SUCH LOSSES OR DAMAGES WERE OTHERWISE FORESEEABLE. IN NO EVENT WILL BARNTOOLS' AGGREGATE LIABILITY ARISING OUT OF OR RELATED TO THIS SALE UNDER ANY LEGAL OR EQUITABLE
THEORY, BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, AND OTHERWISE EXCEED THE TOTAL AMOUNTS PAID FOR THE BARNTALK HARDWARE COMPONENTS.

PRODUCT CATALOG

BARNTALK®

Reliable Alarms.
Instant Connectivity.
Easy Setup.

BARNTALK GATEWAY

Technical Specifications

Type	Description
Model	BT-GW-01-00 (110V, US) or BT-GW-02-00 (5V, CAN)
Size/Weight	10 ½ x 7 x 4 inch / 265 × 185 × 95mm 1.75 lbs / 800 g
Protection Level	IP65
Power Supply	BT-GW-01-00: 100-220V AC BT-GW-02-00: 4.35 – 5.5 V, 280 mA
Power Consumption	1.25 Watts
Battery Backup	Built in Lithium Ion cell type 18650 (2600 mAh) up to 24 hours
Working Environment	Temperature: 23 °F ~ 122 °F / - 5 °C ~ 50 °C Relative Humidity: 0 ~ 99.9% RH with no condensation
Cellular Communication	Multi carrier, LTE Cat 4, M2M, IoT module optimized applications Worldwide
WAN	LTE, UMTS/HSPA(+) and GSM/GPRS/EDGE High Sensitivity 915 ISM frequency band LoRa Module
Case Material	ABS Plastic
Installation	Wall Mount

Gateway Dimensions

Dimensions shown:
- 3 - 3/4" (95 mm)
- 5/16" (8 mm)
- 7 - 1/4" (185 mm)
- 4 - 11/16" (120 mm)
- 11" (280 mm)
- 11 - 13/16" (300 mm)
- 4x ø9/32" (ø7 mm)

CELLULAR ANTENNA

SENSOR ANTENNA

BARNTALK™

Gateway

POWER BUTTON

PAIRING BUTTON

⚠ Cautions

◦ Cellular antenna should be installed at place with good cellphone reception.keep out of direct sunshine and excessive heat.
◦ Sensor antenna should be placed close to the sensors for optimal data reception.
◦ Gateway recommended to be installed inside farm entry or office. Not to be opened by unauthorized personnel.
◦ DO NOT power wash the sensors. For maximum life, remove or cover before washing the area. Store them in a dry place.

Serial No.

WIRELESS INDOOR TEMPERATURE SENSOR

Type	Description
Model	BT-TS-01-00
Measure Range	14 °F ~ 122 °F / -40 °C to 75 °C
Accuracy	±1 °F / 0.5 °C
Resolution	0.2 °F / 0.1 °C
Power Supply	Disposable Lithium Battery
Battery Life	Up to 2.5 years
Working Environment	Temperature: 14 °F ~ 122 °F / -10 °C ~ 50 °C Relative Humidity: 0 ~ 99.9% RH with no condensation
WAN	High Sensitivity 915 ISM frequency band LoRa Module
Protection Level	IP65
Shell Material	Nylon Plastic
Size	Ø 3 x 6 ¼ inch / Ø72*280 mm
Weight	0.5 lbs / 252 g
Installation	Free Hanging

WIRELESS OUTDOOR TEMPERATURE SENSOR

Type	Description
Model	BT-TS-02-00
Measure Range	-22 °F ~ 122 °F / -30 °C ~ 50 °C
Accuracy	±1 °F / 0.5 °C
Resolution	0.2 °F / 0.1 °C
Power Supply	Disposable Lithium Battery
Battery Life	Up to 2.5 years
Working Environment	Temperature: -22 °F ~ 122 °F / -30 °C ~ 50 °C Relative Humidity: 0 ~ 99.9% RH with no condensation
WAN	High Sensitivity 915 ISM frequency band LoRa Module
Protection Level	IP65
Shell Material	Nylon Plastic
Size	Ø 3 x 6 ¼ inch / Ø72*280 mm
Weight	0.5 lbs / 252 g

WIRELESS HUMIDITY SENSOR

Type	Description
Model	BT-TS-03-00
Measure Range	0% ~ 99.9%
Accuracy	± 2%
Resolution	0.1 %
Power Supply	Disposable Lithium Battery
Battery Life	Up to 2 years
Working Environment	Temperature: 14 °F ~ 122 °F / -10 °C ~ 50 °C Relative Humidity: 0 ~ 99.9% RH with no condensation
WAN	High Sensitivity 915 ISM frequency band LoRa Module
Protection Level	IP65
Shell Material	Nylon Plastic
Size	Ø 3 x 6 ¼ inch / Ø72*280 mm
Weight	0.5 lbs / 252 g

WIRELESS DRY CONTACT SENSOR – SQUARE

Monitor Generators, Water Pressure, Ventilation, Contollers, Feed Lines, Power at the Barn/House Level, Power at the Room Level, and More

Type	Description
Model	BT-DC-01-00
Measurements	Power ON/OFF
Dry Contacts	DIN 1 Open/Closed; DIN 2 Open/Closed
Response Time	10 seconds
Power Supply	110-220 Supply Input 3.3 Volts Output (Comes with 2-prong plug-in for standard 110V outlet)
Battery Life	Up to 1 year on full charge
Working Environment	Temperature: 14 °F ~ 122 °F / -10 °C ~ 50 °C Relative Humidity: 0 ~ 99.9% RH with no condensation
WAN	High Sensitivity 915 ISM frequency band LoRa Module
Protection Level	IP65
Shell Material	Nylon Plastic
Size	Ø 3 x 6 ¼ inch / Ø72*280 mm
Weight	0.5 lbs / 252 g

External Power Supply included

WIRELESS FEED BIN SENSOR

| Type	Description
Model	BT-FS-01-00
Measurement Range	12' Diameter, up to 33ft (10m)
Accuracy	±95% of load cells
Camera	3D camera + emitter 38,000 pixels resolution
Power Supply	Solar + Lithium iron phosphate Battery
Battery Life	Up to 5 years
Working Environment	Temperature: -22°F~122°F / -30°C~50°C
Wireless Communication	915Mhz frequency band LoRa Module
Cable	4 ft long (Camera to Solar Comm Box)
Protection Level	IP66
Sensor Material	Poly Carbonate
Weight	1.5 pounds
Size	Camera Sensor 7" × 5" × 3"	Solar Comm Box = 6" × 5" × 2"

WIRELESS WATER METER

Technical Specifications

Type	Description				
Size	1/2"	3/4"	1"	1 1/4"	1 1/2"
Nominal Flow (GPM)	12	20	30	50	80
Max Flow (GPM)	13.7	22.0	34.7	55.0	88.1
Min Flow (GPM)	0.04	0.07	0.11	0.18	0.29
Accuracy	+/- 0.2% between Min and Max Flow				
Maximum Pressure Rating	225 psi				
Power Supply	Permanent Lithium Battery				
Battery Life	Up to 8 years				
Working	Temperature: 14 °F ~ 122 °F / -10 °C ~ 50 °C				
Environment WAN	High Sensitivity 915 ISM frequency band LoRa				
Protection Level	Module IP68				
Pipe Material	Brass or 301 Stainless				
Shell Material	Nylon Plastic				
Size	See Table				
ISO Standard	Confirm to ISO standard: ISO4064: 2014				

Water Meter Dimensions
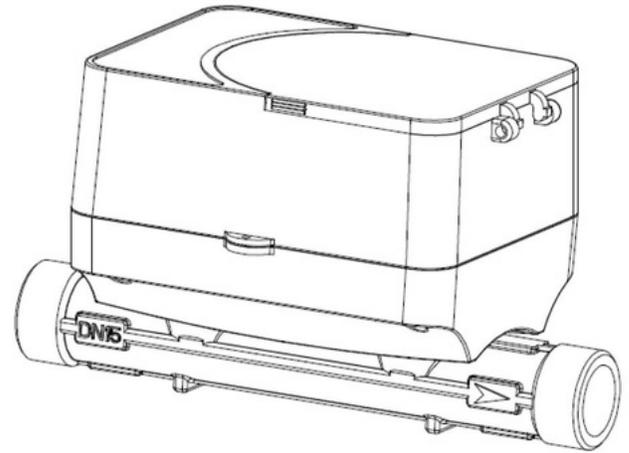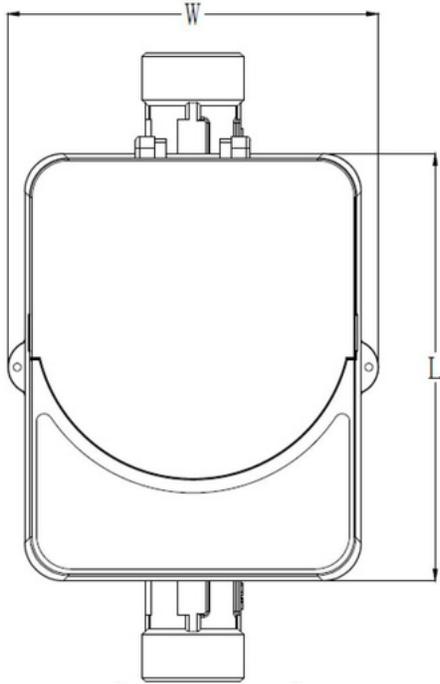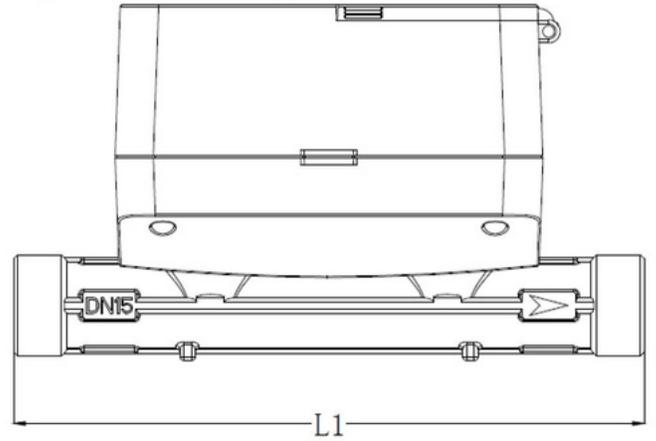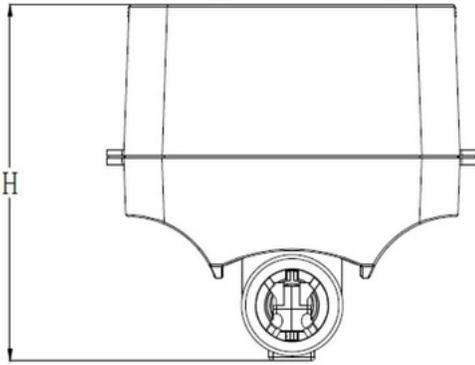
| Size	Thread	US Nominal	L(in)	L1(in)	H(in)	W(mm)
½"	G¾B	½"NPT	4.59	6.50	3.80	3.82
¾"	G1B	¾"NPT	4.59	7.68	3.80	3.82
1"	G1¼B	1"NPT 1	4.59	8.86	4.21	3.82
1 ¼"	G1½B	¼"NPT 1	4.59	7.09	4.33	3.82
1 ½"	G2B	½"NPT	4.59	7.87	4.53	3.82

BARNTALK®

Install Guides

BARNTALK® EASY INSTALL GUIDE

ADDING YOUR GATEWAY

① Scan the QR code or visit go.barntools.com/subscription.

SCAN ME

2. Check your text messages for a link to download the BarnTalk app or search 'BarnTalk' in the AppStore or Google Play Store.

3. Download the app, log in, and follow the steps to scan the barcode in the bottom right corner of the Gateway as shown.
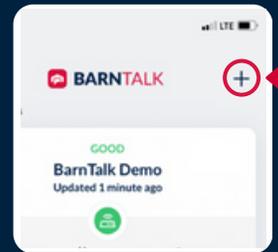
   Follow the in-app prompts to setup the Gateway and two Antennas.

   TIP: If you've previously downloaded the demo app, or have already installed a Gateway, touch the "+" on the top of your screen to add your new Gateway.

4. Open each Sensor and turn the sensor "ON" (power switch is located in the lower left corner of the circuit board).

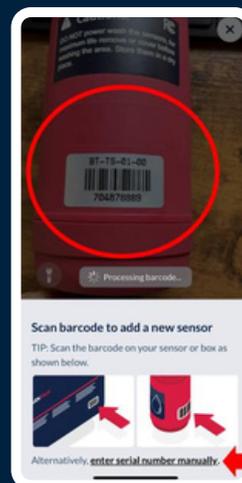   **NOTE**: Water meters & BinTalk feed sensors do not have a power switch and will automatically start reading after installed.

5. If you don't see your sensors in the app, pair your sensors with Scan to Pair.

   - Open the app, select the Gateway tile for the sensor you'd like to pair.
   - Click ⚙ in the top right and "Add Sensor" when prompted.

   Visit **go.barntools.com/pair** to learn more.

SENSOR GUIDELINES

- Typically, **2 barns** can be covered by **1 Gateway.**
- **The Gateway should be centrally located on your site.**
- **Sensors should be placed within 700 ft.** of the Gateway for best connection.
- **Minimize barriers between the antenna and sensors, including thick concrete/steel walls.**
- **Hang or place sensors at least 1 ft. away** from walls to optimize connectivity.
- **1 Temperature Sensor** per room **OR** every 100 ft. in large rooms.
- **1 Humidity Sensor** per room.

Visit **go.barntools.com/start** for more best practices on setting up BarnTalk.

ANTENNA PLACEMENT GUIDELINES

- **Cellular antenna should be mounted outside and as high as possible.**
- **Sensor antenna** should be placed in a centralized location to all sensors, inside the barn, and about head height. On multi-barn sites, it may need to be placed outside.
- Antennas should be mounted to **point vertically**, not horizontally

ADDITIONAL INFORMATION

- **Learn how you can monitor conditions in the BarnTalk Web Portal: barntalk-portal.barntools.com**
- **Set up Water Meter alarms in the Web Portal: go.barntools.com/WMalarm**
- How to install the **BinTalk** wireless feed bin sensor: **go.barntools.com/bintalk.**
- The BarnTalk Gateway can monitor power and (2) separate Dry Contact Circuits. Visit **go.barntools.com/GWDC** to learn more.

SUPPORT RESOURCES

Install Video: **go.barntools.com/watch**
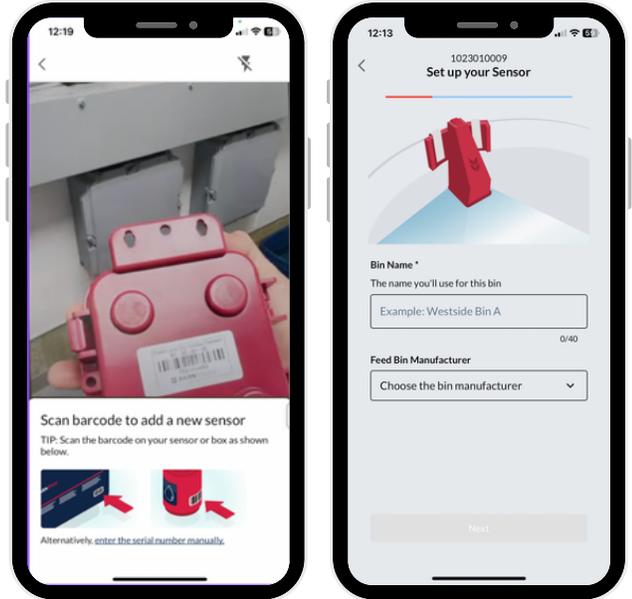
Help Center: **support.barntools.com**

Email Support: **support@barntools.com**

Call/Text: **515-272-5122 or**
Call Toll Free: **855-580-0058**
Monday-Friday, 8 AM-5 PM CST

🏠 BINTALK™ Quick Install Guide

1.

Connect your BinTalk sensor

Take your sensor out of the box and open the BarnTalk app. If you don't see the BinTalk sensor listed under your Gateway, tap the gear icon and choose "Add Sensor".

2.

Enter your BinTalk settings

Next, follow the prompts in the app to fill out your bin details. We'll walk you through the rest with a few easy steps!

3.

Clip your sensor to the bin collar

Attach the sensor straight up and down near the lid's hinges. Use the two self-tapping screws to secure it tightly.

· ·

<u>NOTE</u>: *BinTalk wakes within 6 hrs. of installing. For a faster reading within 1 hr, open the solar panel cover and press the pairing button.*
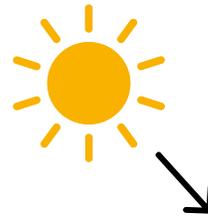
If BinTalk is connected to your Gateway, **'L1' light will flash green** after 10-15 seconds.

If **'L2' flashes red**, contact Support at 515-272-5122.

Just 2 More Steps ⟶

4. **Secure the solar panel**

Attach the magnetic solar panel on the side with **the most sunlight.**

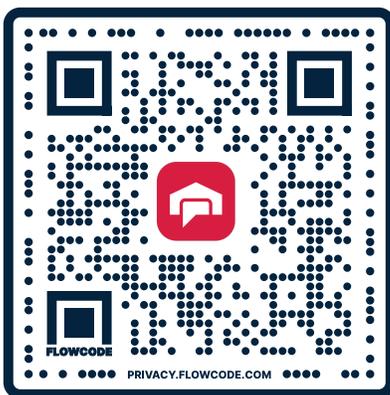**Route the cord outside the bin** to prevent it from getting pinched.

*Place solar panel with the **cord at the bottom**.*

5. **Label your bin**

Use a permanent marker to label the bin number and serial number. Stick it onto your bin, and you're all set!

ADDITIONAL SUPPORT RESOURCES:

Scan with Phone Camera

For more in-depth info on BinTalk, scan the QR code to access videos and a detailed support article.

Help Center and FAQs: **support.barntools.com**

Email our support team: **support@barntools.com**

Call or Text: **515-272-5122** | Call Toll Free: **855-580-0058**

During the hours of 8 AM - 5 PM CST Monday-Friday

BARNTOOLS™

BARNTALK® Wireless Water Meter

READ BEFORE INSTALLING

- The water meter can be installed on either side of a medicator.

- Plumb the water meter in a straight section of pipe of at least 12 inches long.

- The arrow in the center of the brass pipe should point the same direction as the water flow.

⚠️

IMPORTANT

**The water meter will <u>not read</u> if the arrow is installed backwards.**

Once installed, water meter readings will take ~20 min to appear in the app.

If you don't see your water meter in the app, pair it using Scan to Pair.

- Open the app, select the Gateway tile for the water meter you'd like to pair.

- Click ⚙ in the top right and "Add Sensor" when prompted.

Visit **go.barntools.com/pair** to learn more.
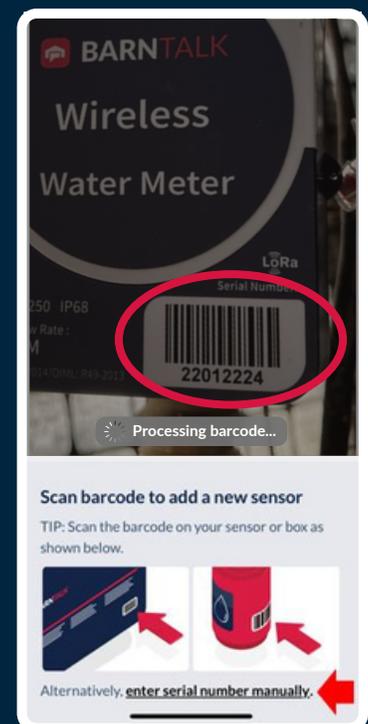
BARNTALK®

Set Up Your Water Meter Alarms:

- To learn how to set up Water Meter alarms in the Web Portal, visit **go.barntools.com/WMalarm.**

- Direct Link to Web Portal: **barntalk-portal.barntools.com**

SCAN WITH

PHONE CAMERA

WATER METER HELP ARTICLE

Scan the QR code to read more about installing your BarnTalk Wireless Water Meter.

ADDITIONAL SUPPORT RESOURCES

Install Video: **go.barntools.com/water**

Help Center: **support.barntools.com**

Email Support: **support@barntools.com**

Call/Text: **515-272-5122**
or Call Toll Free: **855-580-0058**
Monday-Friday, 8 AM-5 PM CST

- Each Wireless Dry Contact Sensor can **monitor power and 2 other pieces of equipment.** This sensor can be placed away from the Gateway, in a separate building for example.

- The Wireless Dry Contact Sensor uses the terminals in the sensor (DIN1, DIN2, and COM) to monitor the Open/Closed state of up to 2 circuits.

- **If the power goes out**, the sensor will automatically switch to its battery power source and notify BarnTalk users of the outage.

- Once this sensor is paired with a Gateway, the app will show controls for managing alerts. Visit **go.barntools.com/wdc-alarm** to learn more.

Screw and zip tie mounting

Hinged door for easy wiring

Magnetic mounting

Larger screw terminals

SETTING UP THE SENSOR

1. The sensor comes with a power supply. Use of the power supply is optional. Power monitoring is accomplished by connecting the **Red wire to the +5V terminal** and the **Black wire to the GND terminal**. The power supply will also keep the on-board battery fully charged.

2. Normally Open (NO) or Normally Closed (NC) circuits can be wired into the sensor using DIN1 and either COM terminal. A second circuit can be monitored using DIN2 and either COM terminal.

BARNTOOLS™

WDC SENSOR BEHAVIOR

Check sensor connectivity by tapping the **pairing button** in the lower right hand corner of the WDC sensor.

After tapping the pairing button, **If the L1 light flashes Green,** then your sensor **IS Communicating**

After tapping the pairing button, **if the L2 light flashes Red**, then your sensor is **NOT Communicating.**

If you come across this behavior, first try to pair the sensor to the respective Gateway. If the behavior persists, contact our support team.

Each input (DIN1 & DIN2) will show you if the WDC sensor is reading an "Open" or "Closed" circuit. No need to check the app anymore during this step.

An **OPEN** circuit is shown by *flashing* lights, while a **CLOSED** circuit will be shown by a *solid* light.

(i)

BARNTOOLS™

BARNTALK® Questions?

Contact us today:

To connect with someone from our Sales Team, **Call/Text 515-220-2966.**

Email our support team: **support@barntools.com**

Call or Text: **515-272-5122**

Call Toll Free: **855-580-0058**

During the hours of 8 AM - 5 PM CST Mon-Fri

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